

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PIERRE COTE, HAMID RABIE, NICHOLAS ADAMS,  
HIDAYAT HUSAIN, HENRY BEHMANN, STEVEN PEDERSEN, and  
JASON CADERA

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Appeal 2006-2492  
Application 09/916,247  
Technology Center 1700

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Decided: February 16, 2007

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Before BRADLEY R. GARRIS, CHUNG K. PAK, and JEFFREY T.  
SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 26-36, the only claims pending in this application. We have jurisdiction under 35 U.S.C. § 134.

## **BRIEF STATEMENT OF THE INVENTION**

Appellants' invention is directed to a process for filtering water containing solids with the membrane in a tank. The claimed process includes the backwashing with a chemical cleaner one or more suction driven ultrafiltration or microfiltration membranes normally immersed in water containing solids that become dirty or fouled during normal operation. Representative independent claim 26, as presented in the Brief, appears below:

26. A process for filtering water containing solids with membranes in a tank comprising the steps of:

a) filling the tank with a feed water to be filtered to immerse the membranes;

b) creating a transmembrane pressure between a permeate side and a retentate side of the membranes, the retentate side of the membranes being in contact with the water in the tank at ambient pressure, the permeate side being subject to a negative pressure relative to the pressure of the water in the tank fluidly connected to a filtered permeate outlet, to generate a filtered permeate at the permeate outlet and a retentate in the tank;

c) aerating the membranes to dislodge solids from the membranes;

d) backwashing the membranes; and,

e) draining the tank of the retentate;

wherein

i) the steps above are performed in repeated cycles; and,

ii) the steps of backwashing the membranes and draining the tank in a cycle may be performed either before the other or partially or substantially simultaneously; and,

f) wetting the membranes at least once per week with a cleaning chemical having a selected concentration for a selected duration after performing step (b) in a first cycle and after or while performing step (e) in the first cycle, without returning to step (b) in the first cycle and before starting a subsequent cycle.

The Examiner relies on the following references in rejecting the appealed subject matter:

Smith	US 5,403,479	Apr. 4, 1995
Del Vecchio	US 6,331,251 B1	Dec. 18, 2001

U.S. Application 11/106,681 for double patenting.

The Examiner entered the following final rejections:

I. Claims 26-36 are rejected under 35 U.S.C. § 102(b) as anticipated by Smith.

II. Claims 26-28, 31, and 33-36 are rejected under 35 U.S.C. § 102 (e) as anticipated by Del Vecchio.

III. Claims 29, 30, and 32 are rejected under 35 U.S.C. § 103 as obvious over the combined teachings of Del Vecchio and Smith.

IV. Claims 26-29, 31, and 33 are provisionally rejected for a statutory double patenting over the copending claims 1-6 of application 11/106,681.

V. Claims 26-36 are provisionally rejected for obviousness-type double patenting over the copending claims 7-29 of application number 11/106,681.

I. Claims 26-36 are rejected under 35 U.S.C. § 102 (b) as anticipated by Smith.<sup>1</sup>

### **ISSUE**

The Examiner contends that Smith figure 4 describes a process of filtering water containing solids that includes backwashing the membrane at least once a week with a cleaning fluid of selected concentration (Answer 5). The Examiner recognizes that Smith does not describe the backwashing of the filter system in the discussion of figure 4. However, the Examiner contends that Smith provides a discussion in the "background of the invention" portion of the specification that teaches draining the tank is not necessary during the cleaning process (Answer 5).

The issue before us is whether the Examiner has properly determined that the Smith reference teaches or describes the claimed subject matter under 35 U.S.C. §102(b). Specifically, the issue is whether the Examiner has properly determined that Smith describes a specific disclosure that includes the backwashing of the membranes, draining the tank of retentate, and wetting the membranes at least once per week with a cleaning chemical? We answer this question in the negative.

### **PRINCIPLES OF LAW**

The Examiner bears the initial burden of establishing a prima facie case of anticipation *In re King*, 801 F.2d 1324, 1326-27, 231 USPQ 136, 138 (Fed. Cir. 1986). Anticipation under 35 U.S.C. § 102 requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson* 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999).

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<sup>1</sup> We will limit our discussion to claim 26, the only independent claim presented in the rejection.

Inherency may not be established by probabilities or possibilities, i.e., the mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981).

### **ANALYSIS**

The Examiner has specifically identified Figure 4 as describing the periodic cleaning of the filter system described by Smith. The Smith reference description of Figure 4 appearing in column 18 does not include a description of draining the tank during the cleaning process. The Examiner direct us to column 10 and for describing an alternative embodiment that indicates draining the tank is not necessary during the cleaning process (Answer 5). The Examiner subsequently states that "a reference may be relied upon for all that it would have reasonably *suggested* to one having ordinary skill in the art, including nonpreferred embodiments" (Answer 5) (emphasis added). The Examiner has not carried the burden of making out a prima facie case of anticipation in the first instance by pointing out where each and every element of the claimed invention, arranged as required by the claim, is described identically in the reference, either expressly or under the principles of inherency. It appears the Examiner is relying on suggestions of the reference to assert the requirements of the present invention are inherently possessed by the Smith reference. However, inherency cannot be based upon probabilities or possibilities. Suggestions and inferences which could have been derived from a reference are not proper basis for formulating an anticipation rejection under § 102. The stated rejection is reversed.

II. Claims 26-28, 31, and 33-36 are rejected under 35 U.S.C. § 102 (e) as anticipated by Del Vecchio.<sup>2</sup>

### **ISSUE**

The Examiner contends that Del Vecchio describes a process of filtering water containing solids that includes backwashing the membrane at least once a week with a cleaning fluid (Answer 8). The Examiner contends that Del Vecchio describes the frequency of cleaning cycles of at least one week in column 12 of the reference. Specifically, the reference states "such 'deep cleaning' may be advantageously performed once per month of normal operation or at more or less frequent intervals depending on the needs of the system and the rate at which a bio-film is generated on the fibers." (Col. 12, ll. 20-24).

The issue before us is whether the Examiner has properly determined that the Del Vecchio reference teaches or describes the claimed subject matter under 35 U.S.C. § 102(b). Specifically, the issue is whether the Examiner has properly determined that Del Vecchio describes the cleaning frequency of at least one week as specified in claim 26? We answer this question in the negative.

### **PRINCIPLES OF LAW**

The Examiner bears the initial burden of establishing a prima facie case of anticipation *In re King*, 801 F.2d 1324, 1326-27, 231 USPQ 136, 138 (Fed. Cir. 1986). Anticipation under 35 U.S.C. § 102 requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Robertson* 169 F.3d at 745, 49 USPQ2d at 1950.

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<sup>2</sup> We will limit our discussion to claim 26, the only independent claim presented in the rejection.

Inherency may not be established by probabilities or possibilities, i.e., the mere fact that a certain thing may result from a given set of circumstances is not sufficient. *Oelrich*, 666 F.2d at 581, 212 USPQ at 326.

### **ANALYSIS**

The Examiner has specifically identified column 12 as describing the periodic cleaning of the filter system. The relevant portion of the Del Vecchio reference identified by the Examiner does not specifically describe the frequency of at least once a week as specified by the claimed invention. The description of Del Vecchio, that the cleaning operation can occur more or less frequently does not indicate that the claimed cleaning interval is expressly or inherently described in the disclosure of the reference. At best, the description of Del Vecchio relied upon by the Examiner would suggest to a person of ordinary skill in the art that the cleaning interval can be varied. Inferences and suggestions derived from a reference is not an indication that the claimed property or condition is expressly or inherently possessed by the reference. The stated rejection is reversed.

III. Claims 29, 30, and 32 are rejected under 35 U.S.C. § 103 as obvious over the combined teachings of Del Vecchio and Smith.

The rejected claims depend upon claim 26, which has been discussed above in the § 102 rejections. The Examiner has not provided an obviousness analysis of claim 26. The Examiner also has not provided an analysis of claim 26 in the discussion of this rejection. The Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Kumar*, 418 F.3d 1361, 1366, 76 USPQ2d 1048, 1051 (Fed. Cir. 2005). To support a rejection on obviousness grounds, the Examiner must provide a detailed analysis of the prior art and reasons why one of ordinary skill in the art would have possessed the knowledge and motivation to make the claimed

invention. *See In re Kahn*, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). Since the Examiner has failed to provide a proper analysis of independent claim 26 under § 103 we *vacate* the Examiner's rejection of claims 29, 30, and 32 and return the application to the Examiner to provide a proper analysis of the rejected claims over the Smith and/or Del Vecchio references. The Examiner should also consider whether Smith and/or Del Vecchio affect the patentability of the other claims on appeal under § 103.

### **Double Patenting Rejections**

IV. Claims 26-29, 31, and 33 are provisionally rejected for a statutory double patenting over the copending claims 1-6 of application 11/106,681.

V. Claims 26-36 are provisionally rejected for obviousness-type double patenting over the copending claims 7-29 of application number 11/106,681.

Appellants do not dispute that the appealed claims are patentably indistinct from the claims of the copending application 11/106,681. Rather, Appellants contend that the double patenting rejections are provisional and should be withdrawn in the present application and converted into the non-provisional rejections in the 11/106,681 application (Br. 4). Appellants citation to *the Manual of Patenting Examining Procedure (MPEP)* § 804, part IB, does not provide a basis for withdrawing the rejections in the present application, because these are not the sole rejections remaining in the present case. Appellants have not substantively challenged the merits of the stated rejections. We therefore uphold with the Examiner's rejections.

### **ORDER**

The rejection of claims 26-36 under 35 U.S.C. §102(b) as anticipated by Smith is reversed.



The rejection of claims 26-28, 31, and 33-36 under 35 U.S.C. §102(e) as anticipated by Del Vecchio is reversed.

The rejection of claims 29, 30, and 32 are rejected under 35 U.S.C. §103 as obvious over the combined teachings of Del Vecchio and Smith is vacated and returned to the Examiner for proper analysis of the independent claim and other dependent claims under § 103.

The provisional rejection of claims 26-29, 31, and 33 for a statutory double patenting over the copending claims 1-6 of application 11/106,681, is affirmed.

The provisional rejection of claims 26-36 for obviousness-type double patenting over the copending claims 7-29 of application number 11/106,681, is affirmed.

We remand the application to the Examiner for proper determination of whether the subject matter of claims 26-36 is obvious within the meaning of 35 U.S.C. § 103(a) over the Smith and/or Del Vecchio references individually or combined.

In addition to affirming the Examiner's rejection of one or more claims, this decision contains a remand. 37 C.F.R. § 41.50(e) (2004) provides that

[w]henver a decision of the Board includes a remand, that decision shall not be considered final for judicial review. When appropriate, upon conclusion of proceedings on remand before the examiner, the Board may enter an order otherwise making its decision final for judicial review.

Regarding any affirmed rejection, 37 C.F.R. § 41.52(a)(1) provides "Appellant may file a single request for rehearing within two months of the date of the original decision of the Board."

The effective date of the affirmance is deferred until conclusion of the proceedings before the Examiner unless, as a mere incident to the limited proceedings, the affirmed rejection is overcome. If the proceedings before the Examiner do not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejections, including any timely request for rehearing thereof.

AFFIRMED and REMANDED

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*Scott R. Pundsack  
Bereskin & Parr  
Box 401  
40 King Street West  
Toronto ON M5H 3Y2 CA CANADA*